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ABSTRACT

This study investigated the lives of adolescents with and without disabilities in nine high schools in urban, suburban, and rural areas in Kansas, Washington, Oregon, and California. It gathered information on key contextual factors and realities that adolescents confront throughout the day. In this investigation, 53 ninth-grade high school students, 26 with disabilities, were shadowed from the time they entered the school in the morning until they left in the afternoon. They were observed in both class and non-class activities. The data indicate the students with disabilities had frequent and positive interactions with their teachers and were generally engaged in a positive fashion within their classes. While interactions with peers tended to be positive, they were not as positive nor as frequent as with their teachers. In short, the students with disabilities seemed to be only somewhat a part of the social fabric of the high school setting. Academically, the students with disabilities were observed as being engaged in their classes, working on in-class assignments, and achieving positive outcomes in most classes. Of concern was the fact that the students with disabilities were assigned less homework than peers and few accommodations were made within general education settings. (Contains 12 references.) (Author/CR)

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Research Report #3

The educational context and outcomes for high school students with disabilities: A case study comparing the school life of students with disabilities and their peers without disabilities

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Abstract

The purpose of this study was to study the lives of adolescents with and without disabilities in high school settings. It was designed to gather information on some of the key contextual factors and realities that adolescents confront throughout the course of a day in high school. The study was conducted in nine public high schools serving grades 9 through 12. Three types of high schools were represented in the study: urban, rural, and suburban from the states of Kansas, Washington, Oregon, and California. In this investigation, 53 ninth-grade high-school students, 26 students with disabilities (SWDs) and 27 without disabilities (NAs) were "shadowed" from the time they entered the school in the morning until they left in the afternoon. They were observed in both class and non-class activities throughout the course of the day.

The data suggest that SWDs have frequent and positive interactions with their teachers and generally are engaged in a positive fashion within their classes. While interactions with peers tend to be positive, they are not as positive nor frequent as with their teachers. In short, SWDs seem to be somewhat a part of the social fabric of the high school setting. Academically, SWDs were observed as being engaged in their classes, working on in-class assignments, and achieving positive outcomes in most classes. Of concern was the fact that SWDs were assigned less homework than peers, perhaps reflecting lower expectations for them by their teachers. Additionally, few accommodations were made within general education settings. Overall, these data underscore the notion that the current performance of adolescents with disabilities in high school settings can better be understood by studying the broader context of factors that potentially impact their classroom performance and overall satisfaction with their schooling experience.

In order to meet the outcome goals specified in IDEA 1997 and the lofty goals associated with the No Child Left Behind Act of 2001, dramatically new approaches to educating students with disabilities in high school settings are going to be necessary. Historically, however, educators have tried to understand and serve adolescents with disabilities from a relatively limited perspective. Namely, the social or academic behavior of these students has been largely explained in terms of their individual characteristics. That is, the prevailing assumption has been, if an adolescent is not performing well in a criterion environment (e.g., the general education classroom), the problem must reside within the student. Hence, detailed explanations for a student's poor performance have been sought by administering one test battery after another. After a thick file describing the "student's problem" has been assembled, an intervention program has been designed to "fix or change" the student (Stover, Shinn, & Walker, 2002). Furthermore, most of the data that have been gathered in order to better understand student performance has tended to be a set of single measures, that typically represent a "snap shot" at a given point in time; or, at best, multiple data points overtime (Ysseldyke & Christensen, 2002).

In reality, the difficulties that students with disabilities face cannot be simply or accurately described by merely analyzing the behavior of the student alone. A more helpful perspective is one that carefully considers not merely learner attributes at singular points in time but contextual factors as well. High-school students with disabilities are first and foremost *adolescents* trying to understand, cope with, and respond to the pressures associated with comprehensive high-school settings (Hersch, 1998). Additionally, as these students move into adolescence and attempt to function in the complex world of high schools, how they are perceived and the roles that they play in these settings is important to understand (Brand & Partee, 2000). All of these pressures and changes, which are different and independent from their personal characteristics as learners, have potentially dramatic effects on their academic performance. Hence, the performance of adolescents with disabilities can only be understood by viewing their behavior as the result of an interaction between an individual's characteristics and the environmental conditions within which they must live and cope. Consequently, efforts to understand and intervene with these students should be made in light of a complex array of factors that are present within the individual, the environmental settings or contextual factors, and the product of an interaction between the two (Powers, Deshler, Jones, Simon, & Taylor, in press).

Although there have been numerous studies and reviews of factors associated with adolescents with disabilities, few have focused on the broader set of environmental or contextual factors that these students face and how those factors interact with their individual characteristics. The resulting implication of the complexity inherent in the educational process is that researchers

must account for influential contextual factors within the process of inquiry and in understanding the extent to which findings can be generalized. A recently published report by the National Research Council entitled *Scientific Research in Education* (Shavelson & Towne, 2002) summarized the vital role of context as follows:

> In sum, the features that shape the application of our principles of science to education research.....underscore the important role of context. A specific implication of the role of contextual factors in education research is that the boundaries of generalization from scientific research need to be carefully delineated. Naïve uses and expectations of research that do not recognize such contextual differences can lead to simplistic, uninformed, and narrow interpretations of research and indiscriminate applications. To build theory, formulate research questions, design and conduct studies, and draw conclusions, scientific education research must attend to such contextual conditions.
>
> This attention to context also suggests that advancing understanding of complex and diverse education settings may require close coordination between researchers and practitioners, interdisciplinary work, and the interplay between varying forms of educational research. It also means a far greater emphasis on taking stock of the inherent diversity of the educational experience and its results for different populations of students. In short, it requires specific attention to the contexts of research more frequently and more systematically than has been the case for much of the work in education to date (p 34-35).

Thus, the purpose of this study was to get a day-long picture of what life is like in the lives of high school students. The intention of this study was to move beyond the "one-shot," partial view of the kinds of data sets and information primarily available to educators through traditional studies that generally do not consider the broader array of contextual factors that impact student performance. By getting this day-long view, a better sense of the totality of pressures and interactions that adolescents encounter would be revealed. The ultimate performance of students in class and their overall sense of satisfaction with their high school experience is influenced by many factors present in the larger context (Stake, 1994). In other words, improved academic performance for this population might only be achieved by understanding some of the larger contextual issues within which efforts to increase academic productivity must take place. Interventions must be designed *in light of* contextual realities such as the unique structures of secondary schools and a myriad of trends that characterize secondary education in America today (Huberman & Miles, 1984).

Methods

Setting

Nine public high schools serving grades 9 through 12 participated. Three types of high schools participated. Three (hereafter referred to as "urban high schools") represented schools located in high-density areas (i.e., urban/metropolitan areas populated by more than 150,000 people) and in which more than 50% of the student population is comprised of "students living in poverty." "Students living in poverty" were defined for the purposes of this study as students who had applied for and received free or reduced-cost lunch benefits. Three of the high schools (hereafter referred to as "rural high schools") represented schools located in low-density population areas (i.e., towns of fewer than 10,000 people and fewer than 150 people per square mile) and in which more than 10% of the student population was comprised of students living in poverty. Three of the high schools (hereafter referred to as "suburban high schools") represented schools that were located in towns having a population of more than 45,000 people and fewer than 150,000 people and in which fewer than 10% of the student population was comprised of students living in poverty.

Three of the high schools (one urban, one rural, and one suburban) were located in Kansas. Three of the high schools (one urban, one rural, and one suburban) were located in the state of Washington. Two schools (one rural, one urban) were located in California. One school (suburban) was located in Oregon.

The student populations in the urban schools ranged in size from 1,031 to 3,508 students, while in the rural schools the populations ranged in size from 330 to 693 students. The student populations in the suburban schools ranged in size from 931 to 1,691 students.

The percentage of students with disabilities in the nine schools ranged from 3.9% in a suburban school to 14.8% in an urban school. Six of the schools had Caucasian majorities, ranging from 67% to 95% of the student population. One school had a Latino/Hispanic majority; one school had an African-American majority; and one had an Armenian majority.

Students were observed wherever they went throughout the school day. They were observed in general education classes, special education classes, and elective classes. They were also observed in settings before and after classes such as the hallways, lunch rooms, and school-entry areas.

Subjects

The students with disabilities (SWDs) targeted in this project were students who had been formally classified as having a disability (e.g., a learning disability, emotional disorder/disturbance, behavioral disorder, physical disability, visual disability, hearing disability, or other health impairment) according to state guidelines. In addition, they were students who

had either been enrolled in one or more rigorous general education courses* or who were judged by their special education teachers as students who could successfully have been enrolled in one or more rigorous general education course successfully if they had had the appropriate instructional support. These were students who were expected to earn standard high-school diplomas by their special education teachers. Hereafter, this will be the only type of student with disabilities referred to in this report.

A second group of students who participated was normally achieving (NA) students. These were students who were enrolled in the same ninth-grade English classes as participating students with disabilities and who were earning at least a "C" grade in the course. They were matched to the students with disabilities by gender and grade level.

All students and their parents were informed about the purpose and procedures of the investigation and asked to sign informed consent forms indicating their willingness to participate or their permission for their son or daughter to participate.

A total of 53 students were involved in this study. Twenty-six were SWDs (10 students were from urban high schools, 8 were from suburban schools, and 8 were from rural schools) and 27 were NAs (11 students were from urban high schools, 8 were from suburban schools, and 8 were from rural schools).

Measurement Instruments

Students completed three forms. The first form, called the **Student Demographics Form**, was used to gather personal information about the participating students such as their age, race, sex, and whether they receive free or reduced-price lunches at school. There were 11 items on the form. Students responded by filling in the blank on about half of the items and by indicating the best answer among several answers for the other half of the items.

On the **Student Survey**, students indicated, using a 7-point Likert-type scale, how much they agreed or disagreed with each item. Items related to their attitudes about learning (e.g., "I don't want to do the hard work in a challenging class."), academic skills (e.g., "For the things that I am asked to do in my high school classes, I feel that I have good skills to be successful."), beliefs (e.g., "I believe I can get better as a learner."), and relationships with adults and students in the school (e.g., "I have a close relationship with at least one adult in this school."). There was a total of 37 items on the survey.

On the third form, called the **Student Satisfaction Form**, students rated their satisfaction using a 7-point Likert-type scale for each item with "1" indicating that they were

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* A rigorous general education course was defined as a math, English, social studies/history, science, or foreign language course that must be passed by a student in order to earn a standard high school diploma, that contributes credits toward a standard high school diploma (as in the case of a foreign language course), that has been designed for helping students meet state standards, and that was being taught by a teacher who has credentials in the subject area.

"Completely Dissatisfied" and "7" indicating that they were "Completely Satisfied." Two forms of this questionnaire were used, one for SWDs and one for normally achieving students. The items on the Student Satisfaction Form for SWDs related to their satisfaction with how their special education teachers help them succeed in general education classes, how their special education teachers and parents communicate, how their special education teachers are preparing them for life after high-school graduation, how the teachers of their required academic courses help them learn, their comfort with and outcomes associated with those academic courses, and their overall high school experience. They were also asked to list three skills that they have learned in high school that have been very useful in succeeding in required courses, and three things they need to learn to get better grades in required courses.

The items on the Student Satisfaction Form for normally achieving students were the same as the items on the Satisfaction Form for SWDs except the wording was changed slightly. For example, the SWDs were asked to indicate how satisfied they were with how the *special education teacher* was helping them complete assignments for required courses, whereas the normally achieving students were asked to indicate how satisfied they were with how the teachers of their required academic classes were helping them complete assignments for required courses.

Data related to the participating students were gathered from school records using a form called the **Student Information Form**. Two versions of the form were created, one for the SWDs and one for the normally achieving students. The form was used to gather standardized test scores, the names of classes in which the student was enrolled, the semester grades earned by the student, the number of days the student was absent, suspended, or expelled, the number of disciplinary actions incurred during each year of high school, and scores on state competency exams. The only difference between the version for the SWDs and the normally achieving students was that there was a place on the version for the SWDs to record the scores earned on individually administered achievement and aptitude tests and information about the students' disabilities.

Two observation forms were used during this study. The first was **The Class Observation Form.** This form was completed during each class period throughout the course of an entire school day. The form consisted of a variety of spaces within which the researcher could record the following information: subject area, time period, type of class (e.g., remedial, rigorous, etc.), seat location, the mood of the target student, number of minutes before the target student was on task, number of direct contacts initiated by the teacher with the student, number of direct contacts initiated by the student with the teacher, number of different students who initiated contact with the target student, and the number of students with whom the target student

initiated contact. In addition, space was available to record class activity, assignments, the target's response to activities, accommodations, and homework assignments.

The second observation form was **The Non-Class Observation Form.** This form was completed throughout each out-of-class time period including hall passing, lunch, and before and after school times. Spaces were available on the form to record the following information: target's mood/demeanor, number of different students who initiated contact with the target, number of different students with whom the target initiated contact, number of direct contacts initiated by school staff with the target, number of contacts initiated by the target with school staff, and description of the nature of the contacts (e.g., any rejections, aggressive behavior, etc.), and a description of where the target chose to walk, stand, or sit in relation to others .

Finally, during each class period, the researcher completed a **Class Description Form.** This form contained seven items related to what had transpired during the class period. For example, the first item asked the observer to provide a general description of the lesson, the fourth item asked the observer to describe the relationship between the target student and other students, and the sixth item asked the observer to describe the general outcome of the class for the target student. All of the items were open-ended, and the observers wrote their answers in sentence form under each item.

Procedures

A staff member in each school volunteered to be the liaison person for the investigation. This person was contacted and asked for a list of ninth-grade students who would be possible participants in this study. Once the list was produced, each student and his/her parents were contacted individually for the purpose of explaining the study and obtaining informed consent. The goal was to recruit three SWDs and three NAs who were matched in term of gender and race and who they felt would be willing to participate in this study. This goal, however, was not fully met. In one school (urban #3) only two SWDs were involved in the study as one student dropped out at the last minute. Because of difficulties of receiving informed consents from students who were initially targeted for the study, it was not possible to match as well on gender and ethnicity as had been hoped.

The following explanation was given to the volunteeering students and their parents: "I will be spending one full day with you at school. I'll meet you when you arrive at school and basically be with you throughout the day. I'll sit in your classes with you and be with you outside of class as well, for instance, in the lunchroom. However, I'll maintain enough distance that it won't be obvious that you are being observed. I'll just be a 'fly on the wall,' observing but not interrupting what happens during the course of a day in your life at school. I'll be observing the kinds of things you are expected to do in your various classes, with whom you interact, and so on. We are interested in learning how you spend your time and what kinds of things are

expected of students like you in your high school. Most importantly, nothing will be done throughout the course of the day to disrupt your class work or your normal activities or to draw attention to you. We do not want anyone to know that you are being observed."

On the day of the scheduled observation, the student was met at the agreed upon location and reminded not to talk to others about being "shadowed," but that if explaining the observer's presence became necessary, the student should just say that observer was there "to get an idea of what it's like to be a high school student today." Also, the student was reminded not to talk with the observer during the day. The class and non-class observation forms were used throughout the day. Observers attempted to maintain a six-foot distance between themselves and the student and to remain as unobtrusive as possible.

Results

Student Demographic Results

The SWDs in this study were markedly different than students in the NA group in terms of gender, ethnicity, and poverty. Specifically, 71% of the SWDs were males versus 53% males in the NA group. For the SWD group, 4.76% were Hispanic/Latino, and 28.57% were African-American. In the NA group, only 5.88% were African-American, and there were no Hispanic/Latino students.

Reports of free and reduced lunch programs for SWDs indicated that 9.52% received free lunches (versus 5.88% for the NA students) and 4.76% received reduced lunch prices (versus 5.88% for NA/AR).

Relative to special education category, 52.38% of the SWDs were classified as LD, 4.76% were classified as BD, 4.76% were classified as MR, 15.92 were classified either having a sensory disability, other health impaired, or having a multiple diagnosis. 22.18% did not have a formal special education categorical designation even though they were receiving special education services.

Student Survey Results

For all but three items on the 37-item Student Survey, there were no discernable differences between the two groups on measures related to attitudes about learning, self-assessment about skills required to do well in school, and relationships with adults. The areas in which differences were noted related to how hard the students tried in school and cared about how well they did. Interestingly, the SWDs reported that they "cared more about whether they understood the work that they were doing rather than just getting the work done" than did their NA counterparts. SWDs tended to disagree much more with the item "when work is difficult, I either give up or study only the easy parts" than did the NA group. Concerning a willingness to turn to other students in their school, the SWDs reported a greater reluctance to do so for the

purpose of sharing a problem or talking about something that is bothering them than did the NA students.

Student Satisfaction Results

Figure 1 summarizes the results derived from the Student Satisfaction Form for SWDs and NA students across all schools. This figure shows the mean ratings provided by the students across items within each of the six sections of the questionnaire. Overall, the satisfaction expressed by the students was low to moderate with most mean ratings in the 4.0 to 5.5 range on a 7-point scale (with "7.0" representing "completely satisfied"). Figures 2, 3, and 4 show the results of students attending the suburban, rural, and urban schools, respectively. SWDs attending the suburban schools were considerably more satisfied than their counter parts attending rural and urban schools. The SWDs were also considerably more satisfied than their NA peer in the suburban high schools. In the rural schools, however, the NA group was considerably more satisfied than their SWD peers.

Classroom Observation Results

The observation data of in-class behavior by target students suggests that there is considerable similarity in the behavior of SWDs and NAs and in the behavior of teachers and their peers toward them. First, the majority of target students from each group sat near the front of the classroom (40% SWDs and 34% of NAs), whereas more NAs sat in the back of the classroom than did SWDs (28% versus 19%). However, NAs began work at the beginning of class more quickly than did the SWDs (1.45 minutes versus 2.23 minutes before the student was on task).

The pattern of contacts between the target students and others (peers or teachers) suggests that SWDs are apart of the ongoing flow and dynamic of the classroom in terms of frequency of contacts and interaction with others. Table 1 summarizes these findings. Specifically, teachers initiate more contacts with SWDs than with NAs (2.08 contacts/class period versus 1.49 contacts/class period, respectively), and SWDs initiate slightly more contacts with the teacher than do NAs (2.66 contacts/class period versus 2.07 contacts/class period). While the NAs initiate slightly more contacts with their peers (4.05 contacts/class period versus 3.77 contacts/class period, respectively) and receive more initiations from them than do the SWDs (3.45 initiations/class period versus 2.77 initiations/class period, respectively), these data indicate that SWDs are very much a part of and not apart from nor isolated in the social and academic milieu of the classroom.

Table 2 shows the mean number of responses by students to in-class assignments. The mean number of in-class activities in classrooms of target SWDs and target NAs is approximately the same (2.14 activities/class period versus 2.25 activities/class period respectively). The majority of responses made by both SWDs and NAs to in-class activities was positive (1.48

versus 1.68), with fewer SWD responses than NA responses falling into the neutral category (.33 for SWDs and .58 for NAs) and the negative category (.12 for SWDs and .23 for NAs).

Classroom teachers made some accommodations and provided individual attention to meet the needs of SWDs assigned to their classes. Specifically, accommodations and individual attention were observed being made in 14% of the targeted class periods. No special accommodations were observed being made for the NA students. In some settings (Rural School #2), accommodations were identified in 52% of the observed class periods. In putting the nature of accommodations made into perspective, it is important to note that of the 285 class periods observed, only 22 contained instances of accommodations. The majority of these accommodations consisted of individual attention provided by the teacher (e.g., working with a student prior to class, or sending the student to the resource room for help). In only 5 instances were accommodations ones that required significant planning and adjustments by the teacher (e.g., making enlarged worksheets or making arrangements for the student to take the test outside of class).

Finally, homework was assigned in 37% of the classes attended by the NAs and 21% of the classes attended by SWDs. The largest discrepancy between the amount of homework given to NAs and SWDS was seen in the rural and suburban schools. Namely, SWDs received homework in only 15% of their classes in rural schools and 19% of their classes in suburban schools (compared to 29% in urban schools). In contrast, their NA counterparts were given homework in 40% of their rural school classes and 43% of their suburban classes.

Class Description Results

Closely related to the classroom observation results (see above section) are the findings related to such factors as the overall atmosphere of the classroom, the quality of interactions between the teachers and students, and the attitudes of the students toward learning during each class period. Regarding the teacher-created atmosphere within the classes observed, it was judged to be positive in 64% of the SWD classes and 63% of the NA classes. It was judged to be negative in 11% of the SWD classes and 8% of the NA classes. These findings did not vary significantly across school type (i.e., urban, rural, suburban). The attitude of students toward learning was rated as being positive in 55% of the SWD classes and 51% of the NA classes, with negative ratings being attributed to 8% of the SWD classes and 11% of the NA classes.

Overall, the rapport/relationship between teachers and the target students was rated to be positive for 45% of the SWD classes and 39% of NA classes and negative in only 3% of each of the SWD and NA classes. The lowest positive ratings were reported for the suburban schools (SWD = 37% and NA = 28%). Regarding relationships between target students and other students in the class there was a marked difference between the two groups. For the SWDs, in only 40% of the classes were these students deemed to have positive relationships with their

peers (in the suburban schools it was as low as 34%), whereas the NA students were judged to have positive relationships in 67% of their classes. The major descriptor used to describe the relationship between SWDs and their peers was "neutral, " however, and not "negative."

The general outcomes of the observed classes were rated to be positive for 62% of the classes in which SWDs were enrolled and 74% of the classes in which NAs were enrolled. Negative outcomes were reported in twice as many of the SWD classes as in the classes in which NAs were enrolled (14% versus 7%). The least favorably rated outcomes occurred in the rural schools. The outcomes were rated to be positive for 53% of the classes in which SWDs were enrolled and 84% of the classes in which NAs were enrolled.

Finally, reports of disruptions/interruptions per class period revealed an interesting pattern. First, in about half of the classes for both target SWDs and NAs, no disruptions/interruptions per class period were observed (46% for SWD classes and 51% for NA classes). However, 27% of the classes in which SWD were enrolled and 28% of the classes in which NA were enrolled, respectively, were students observed making 2-5 disruptions/interruptions per class period, and in 11% of the classes in which SWDs were enrolled were target students observed making in excess of 5 disruptions/interruptions per class period. The most disruptions occurred in the rural schools. In only 27% of the classes with SWDs and 36% of the NA classes in rural schools were no disruptions/interruptions reported in these schools, whereas 45% of classes in which SWDs were enrolled and 40% of the classes in which NAs were enrolled were reported as making 2-5 disruptions/interruptions per class period. In both the urban and suburban schools, 15% of the SWDs were observed to make in excess of 5 disruptions/interruptions per class period.

Non-Class Observation Results

The general mood/disposition of 60 % of the non-class times observed with SWDs (e.g., in hallway, lunchroom, etc.) and 74% of the non-class times observed with NAs was judged to be positive and in only small minority of cases (3%) was it judged to be negative. This finding held across all school types (urban, rural, suburban). The mean number of students with whom the target SWDs initiated contact was 2.01 per non-class period compared to 2.99 for the NAs. The mean number of students who initiated contact with the target student per non-class period was 1.62 in the case of SWDs and nearly double in the case of NAs (2.97). The number of contacts between target students and school staff during non-class observations was considerably lower than the number of contacts target students made with other students. The mean number of contacts with staff initiated by the SWDs was .23 per non-class period compared to .19 for the NAs whereas the mean number of contacts initiated by staff with students was .22 per non-class period for SWDs and .16 for NAs. No notable differences were observed across school types.

Qualitatively, the type of contacts observed between target students and others were overwhelmingly judged to be normal. For example, 75% of the contacts between SWDs and others were judged as normal compared to 85% for the NAs. Only 1% of the contacts were judged to be rejection-type responses for the SWDs and only 2% for the NAs. Likewise, 4% of the contacts were judged to be ones of aggression in the case of SWDs and 7% for NAs. No notable differences were observed across school types.

Finally, observations were made as to where the target students chose to walk, sit, or stand in relation to other students or staff during non-class times. 76% of the non-class periods in which SWDs were observed with others compared to 84% of the non-class times in which NAs were observed but three times as many of the non-class times in which the SWDs (9%) were observed being alone than were the non-class time in which the NAs were observed being alone (3%). Similar patterns were observed across all school types.

Discussion

The results of this descriptive study show that understanding the broader context within which SWDs function can be helpful painting a more complete profile of what constitutes their experiences in high school settings. Much of the professional literature has portrayed SWDs as being isolated and on the fringes of the social fabric of school settings (e.g., Gresham, 2002; Walker, Noell, & Singer, 1992). Much of the data that emerged from this investigation suggest that SWDs are often more like than different from their NA peers relative to the their interactions with teachers and peers. However, their relationships and interactions with teachers appears to be more positive than their relationships with peers although the latter relationships are not totally negative. Specifically, the majority of SWDs sat near the front of the classroom rather than retreating to the back or fringes of the classroom, and numbers of initiations by SWDs to and from their teachers were very comparable to what their NA peers experienced. The rapport/relationships between teachers and SWDs was rated more positively than the rapport/relationships between teachers and NAs. This is an interesting finding in light of the fact that SWDs engaged in considerably more disruptions/interruptions than did their NA counterparts.

Relative to relationships with peers, SWDs showed several signs of being, at least partially, a part of the schools social fabric. For example, SWDs initiated contact with peers but about 2/3s as frequently as the NA group, and nearly twice as many peers initiated contact with the NA students as with the SWDs. While the large majority of interactions between SWDs and peers were judged to be normal and where they choose to stand, sit, and interact was similar to the NAs, SWDs were observed to be alone three times as much as their counterparts, but their solitude was infrequent.

On the other hand, these data require further analysis and follow-up study. Specifically, if one were to assume that students attend seven class periods per day and have nine passing periods between classes and the times prior to and immediately following school and lunch, the total number of interactions during the course of a school day would be approximately 106 for the NAs and 78 for the SWDs (i.e., taking the total number of interactions that were initiated by or toward the target student during one class session and one non-class segment and multiplying that figure by seven class periods and nine non-class time periods, respectively, the total number of daily interactions could be estimated). Assuming that these estimates are accurate, these data imply that SWDs engage in only 3/4 as many interactions as do their NA counterparts. To be determined is the degree to which this difference, indeed, influences the quality of life of SWDs.

Some interesting patterns emerged in this study relative to SWDs' attitudes and behavior relative to learning and academics. Interestingly, SWDs gave several indications of taking the business of schooling seriously. For example, on the Student Survey, they scored higher than the NA group on items related to how much they cared about understanding what was being taught and not giving up when encountering difficult work. The large majority were judged as responding positively and at a comparable level to their NA peers to in-class assignments, and their overall attitude toward learning during class sessions was judged to be positive and approximately equal to the NA group. Finally, the overall outcome of their classroom participation and work was judged to be positive and similar to the NA students.

On the other hand, there are some areas of concern that are reflected in the data. The SWDs took nearly twice as long to become engaged in their work in class than their NA peers, and the number of homework assignments given to SWDs was nearly half the number given to the NA students. This is a disturbing finding because during high school years, one of the primary avenues for students getting practice on concepts being taught is through homework. The substantially lower levels of homework assignments may be due to a couple of factors. First, many SWDs are placed in lower level classes (that is, ones that contain only low-achieving students or are taught by a special education teacher), and thus most work is done within the classroom under the supervision of the teacher. Second, the fewer homework assignments may simply reflect a much lower set of expectations for SWDs. The long-term implications of this for overall achievement for SWDs, including their ability to perform well on state and national outcome assessments, must be carefully examined.

The amount of accommodations observed being made by general education teachers on behalf of SWDs (14% of the class periods observed) appears to be low given the complexity of the content taught in rigorous high school classes (e.g., Schumaker & Deshler, 1988; Schumaker, Deshler, Bui, & Vernon, 2001), the significant deficits evidenced by adolescents with disabilities (e.g., Deshler, Grossen, Marquis, Schumaker, Bulgren, Lenz, & Davis, 2002), and the

expectations of IDEA to create circumstances that enable authentic access for SWDs to rigorous courses. In order to put students in a position to not only get passing grades but to master critical concepts and skills, the amount of accommodations made by general education teachers will probably need to increase.

Overall, the findings of this study underscore the importance of researchers understanding the contextual realities within which SWDs function in high school settings. In order to design interventions that will result in significant outcomes for students, they must account for and address the realities of the settings within which students are expected to learn. The complex realities of adolescence as a developmental period and of high schools as social organizations requires that researchers attend to the influence and role of these factors.

Finally, the results of this study may have been influenced by the students who were designated as NAs. While the intension of the researchers was to select NAs who would be matched with SWDs who were placed in rigorous general education classes, we indeed, found hardly no SWDs in such classes. Rather, the large majority of SWDs wre placed in "general education classes" that were either taught by a special education teacher (hence, most of the students were classified as having a disability and in some instance included other low achieving students) or the classes were low track classes that included only students who were low achievers. In our attempts to select match students by selecting them from the same classes, it may have resulted in several of students who were called NAs, indeed, being more like at-risk students. If, indeed, this is the case, the reported differences in this study may have been greater had the comparison group been made up entirely of NA students who were in rigorous general education classes consisting of heterogeneous students.

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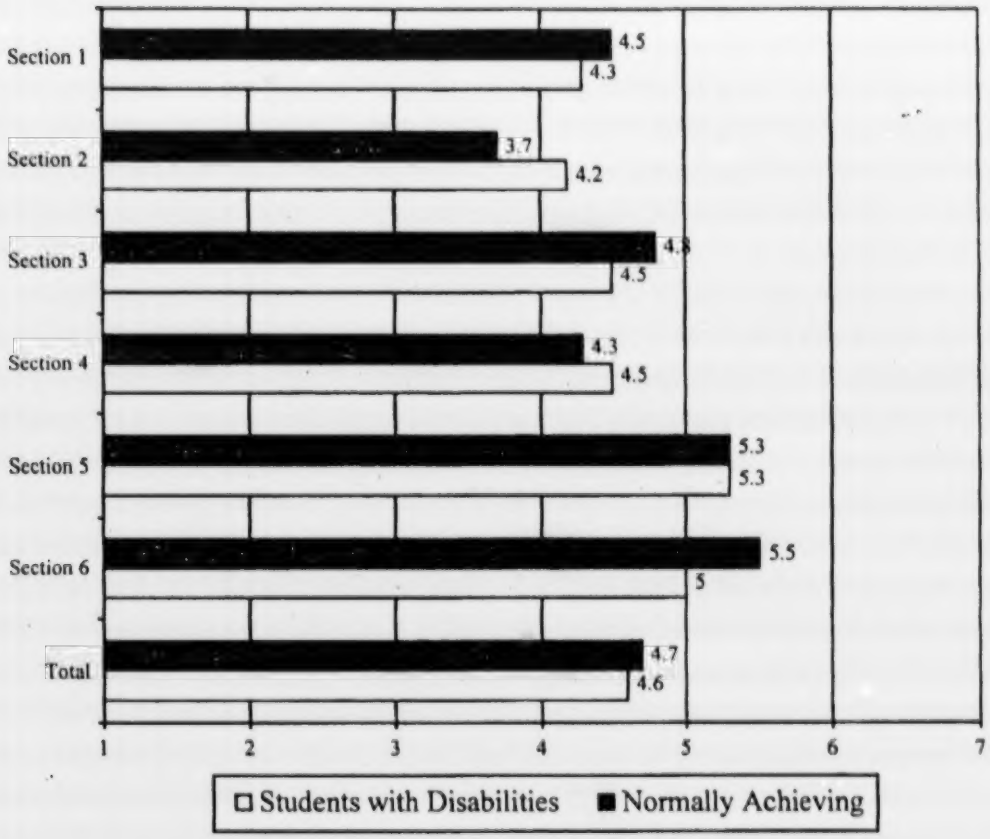
Table 1
Contacts initiated by and toward target students

Mean	SWD	NA
# of contacts w/target initiated by teacher	2.08	1.49
# of contacts w/target initiated by target	2.66	2.07
# of students who initiated contacts w/target	2.77	3.45
# of students target initiated contacts with	3.77	4.05

Table 2
Responses by students to in-class activities

Mean	SWD	NA
# of activities per class period	2.14	2.25
# of positive responses to activity by target	1.48	1.68
# of neutral responses to activity by target	0.33	0.58
# of negative responses to activity by target	0.12	0.23



Questions for Student Satisfaction

Section 1: How satisfied are you with the way your special education/teachers of required academic classes (English, math, science, history) assist you?

Section 2: How satisfied are you with the way your teachers and your parents interact?

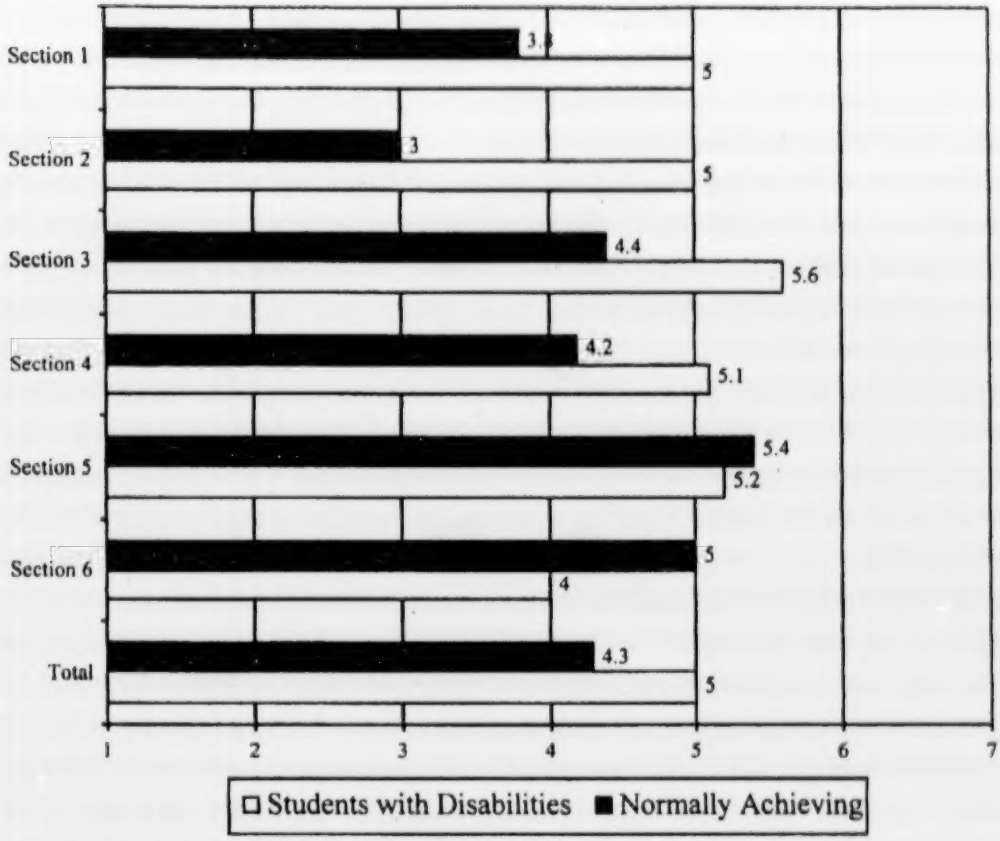
Section 3: How satisfied are you with the way your teachers are helping you prepare for life after high school graduation?

Section 4: How satisfied are you with the way the teachers of your required academic classes (science, history, math, English) teach you?

Section 5: How satisfied are you with your required academic classes (science, history, math, English)?

Section 6: How satisfied are you with your overall high school experience?

Figure 1. Satisfaction Ratings by Students Participating in the Case Study



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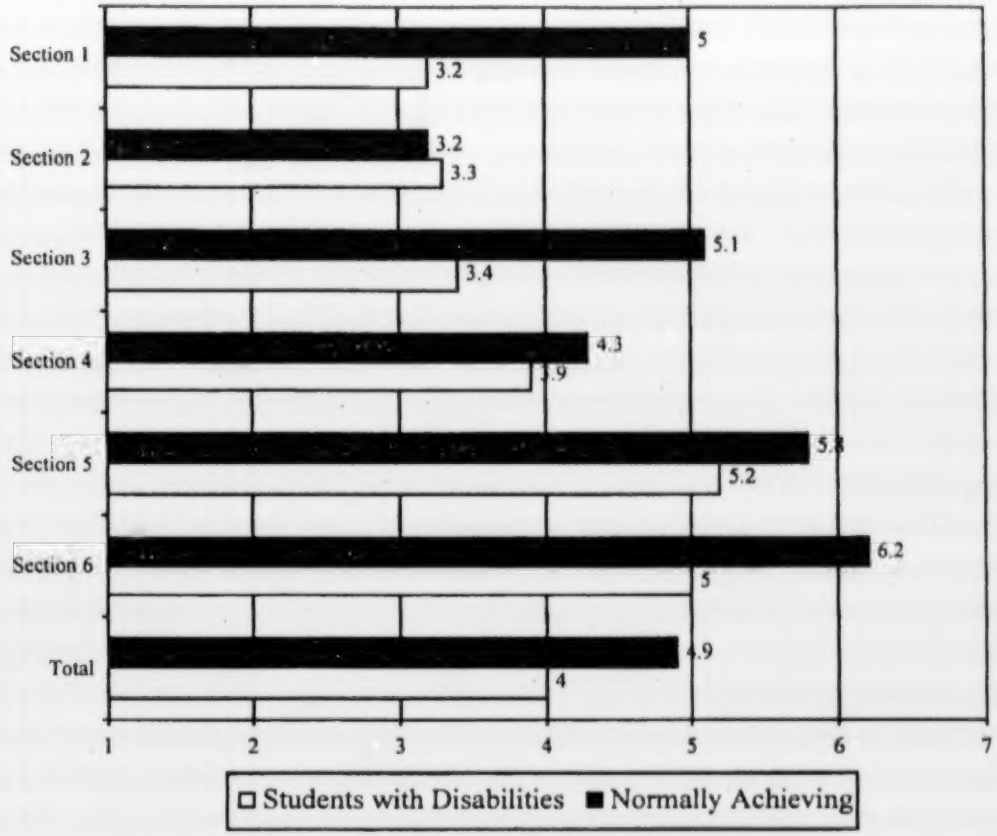
Section 6: How satisfied are you with your overall high school experience?

Figure 2. Satisfaction Ratings by Students Participating in the Case Study in Suburban Schools



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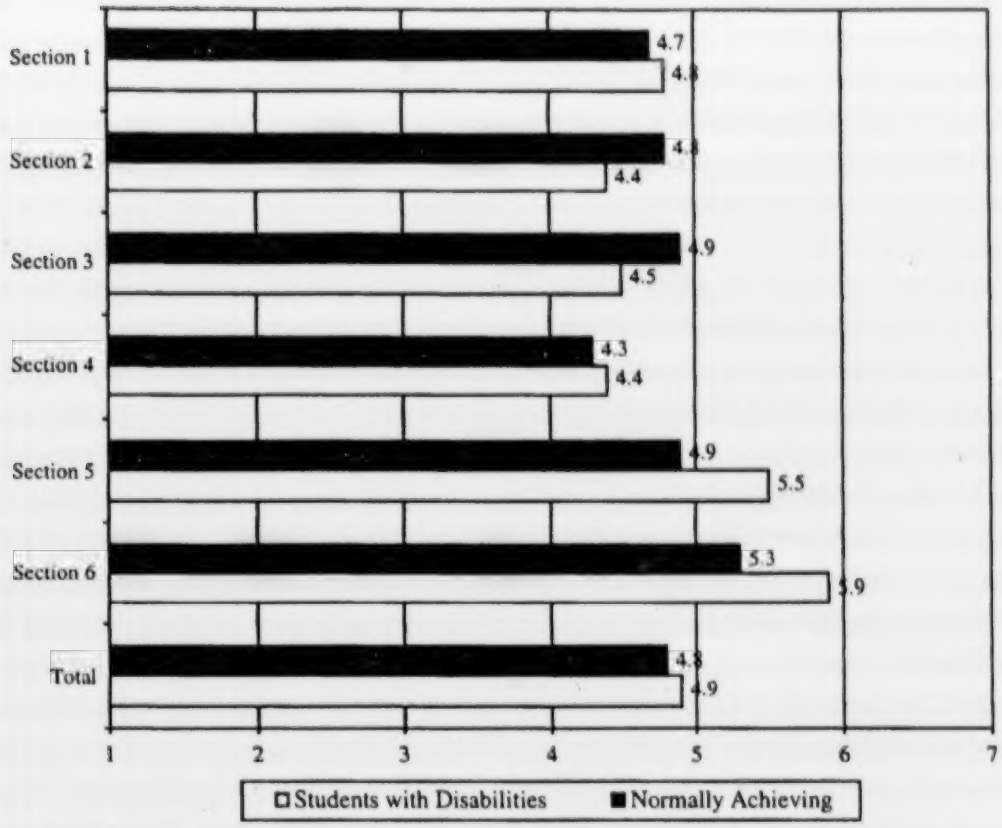
Section 5: How satisfied are you with your required academic classes (science, history, math, English)?

Section 6: How satisfied are you with your overall high school experience?

Figure 3. Satisfaction Ratings by Students Participating in the Case Study in Rural Schools



Questions for Student Satisfaction

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Section 4: How satisfied are you with the way the teachers of your required academic classes (science, history, math, English) teach you?
Section 5: How satisfied are you with your required academic classes (science, history, math, English)?
Section 6: How satisfied are you with your overall high school experience?

Figure 4. Satisfaction Ratings by Students Participating in the Case Study in Urban Schools

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